

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 3, 4, 5, 7, 8, 11, 12, and 15-17 in accordance with the following:

1. (CURRENTLY AMENDED) A memory access method for a multiprocessor system which includes a plurality of system modules coupled via a crossbar module, each of the system modules including a buffer which holds data and a plurality of processors having a cache memory which temporarily holds the data, said memory access method comprising:

responsive to a read request from a processor within an arbitrary system module, holding data preread from one of the system modules, other than the arbitrary system module, in a buffer within the crossbar module, ~~wherein the data preread is data at a location that is close to the processor that made the read request; and~~

transferring the preread data from the system module, other than the arbitrary system module, to the buffer within the crossbar module, with a priority lower than a priority of a normal data transfer between the system modules and the crossbar module.

2. (PREVIOUSLY PRESENTED) The memory access method as claimed in claim 1, further comprising:

setting information indicating whether or not to carry out a data preread with respect to the arbitrary system module, depending on a program which is executed by one or a plurality of processors within the arbitrary system module.

3. (CURRENTLY AMENDED) The memory access method as claimed in claim 2, further comprising:

adding, to a data transfer of the preread data, ~~a~~the priority which is lower than ~~a~~the priority of ~~a~~the normal data transfer.

4. (CURRENTLY AMENDED) The memory access method as claimed in claim 1, further comprising:

adding, to a data transfer of the preread data, ~~a~~the priority which is lower than ~~a~~the priority of ~~a~~the normal data transfer.

5. (CURRENTLY AMENDED) A multiprocessor system, comprising:
a plurality of system modules;
at least one crossbar module; and
a bus coupling the system modules and the crossbar module,
each of the system modules including a buffer which holds data, a plurality of processors each having a cache memory which temporarily holds the data, and a control unit which controls input and output of the data with respect to the system module to which the control unit belongs,
a data transfer between two of the system modules being made via the crossbar module, and
said crossbar module including a buffer which holds data preread from one of the system modules, other than an arbitrary system module, responsive to a read request from a processor within the arbitrary system module, ~~wherein the data preread is data at a location that is close to the processor that made the read request, and~~
said one of the system modules transferring the preread data from the one of the system modules, other than the arbitrary system module, to the buffer within the crossbar module, with a priority lower than a priority of a normal data transfer between the system modules and the crossbar module.

6. (PREVIOUSLY PRESENTED) The multiprocessor system as claimed in claim 5, wherein the arbitrary system module includes a unit setting information indicating whether or not to carry out a data preread with respect to the arbitrary system module, depending on a program which is executed by one or a plurality of processors within the arbitrary system module.

7. (CURRENTLY AMENDED) The multiprocessor system as claimed in claim 6, wherein each of the system modules further includes a unit adding, to a data transfer of the preread data, ~~a~~the priority which is lower than ~~a~~the priority of ~~a~~the normal data transfer.

8. (CURRENTLY AMENDED) The multiprocessor system as claimed in claim 5, wherein each of the system modules further includes a unit adding, to a data transfer of the

preread data, a the priority which is lower than a the priority of a the normal data transfer.

9. (PREVIOUSLY PRESENTED) The multiprocessor system as claimed in claim 5, wherein one of the system modules, which has a memory with a requested address of the read request, includes a unit starting a data preread at a timing before detecting a state of the cache memory included therein.

10. (ORIGINAL) The multiprocessor system as claimed in claim 5, wherein:
the plurality of system modules, the crossbar module, and the bus form a node; and
a plurality of nodes are coupled via the crossbar module of adjacent nodes.

11. (CURRENTLY AMENDED) A multiprocessor system, comprising:
a plurality of nodes each including a plurality of system modules, a crossbar module, and a bus coupling the system modules and the crossbar module within each node; and

a bus coupling adjacent nodes via the crossbar modules of the adjacent nodes,
each of the system modules including a buffer which holds data, a plurality of processors each having a cache memory which temporarily holds the data, and a control unit which controls input and output of the data with respect to the system module to which the control unit belongs,

~~a data transfer between two system modules being made via at least one crossbar module,~~

~~said crossbar module including a buffer which holds the data preread from a system module, other than an arbitrary system module, in responsive to a read request from a processor within the arbitrary system module unit which controls input and output of the data with respect to the system module to which the control unit belongs,~~

a data transfer between two of the system modules being made via at least one crossbar module, and

said crossbar module including a buffer which holds the data preread from one of the system modules, other than an arbitrary system module, responsive to a read request from a processor within the arbitrary system module, ~~wherein the data preread is data at a location that is close to the processor that made the read request, and~~

said one of the system modules transferring the preread data from the one of the system modules, other than the arbitrary system module, to the buffer within the crossbar

module, with a priority lower than a priority of a normal data transfer between the system modules and the crossbar module.

12. (CURRENTLY AMENDED) The memory access method as claimed in claim 1, wherein said holding data further comprises:

generating the read request from the arbitrary system module if a mishit occurs in the arbitrary system module; and

prereading the data requested by the read request in the system module, other than the arbitrary system module, and storing the requested data; and

~~transferring the preread data from the system module, other than the arbitrary system module, to the buffer within the crossbar module, with a priority lower than a priority of a normal data transfer between the system modules and the crossbar module.~~

13. (PREVIOUSLY PRESENTED) The memory access method as claimed in claim 12, further comprising:

transferring the preread data stored in the buffer within the crossbar module to the arbitrary system module with a priority lower than the priority of the normal data transfer between the system modules and the crossbar module.

14. (CURRENTLY AMENDED) The multiprocessor system as claimed in claim 5, wherein:

the arbitrary system module generates the read request if a mishit occurs in the arbitrary system module;

the system module, other than the arbitrary system module, storing the data requested by the read request prereads the requested data: and

the system module, other than the arbitrary system module, transfers the preread data to the buffer within the crossbar module, with a the priority lower than a the priority of a the normal data transfer between the system modules and the crossbar module.

15. (CURRENTLY AMENDED) The multiprocessor system as claimed in claim 14, wherein the crossbar module transfers the preread data stored in the buffer thereof to the arbitrary system module with a the priority lower than the priority of the normal data transfer between the system modules and the crossbar module.

16. (CURRENTLY AMENDED) The multiprocessor system as claimed in claim 11, wherein:

the arbitrary system module generates the read request if a mishit occurs in the arbitrary system module; and

the system module, other than the arbitrary system module, storing the data requested by the read request prereads the requested data; ~~and~~

~~the system module, other than the arbitrary system module, transfers the preread data to the buffer within the crossbar module, with a priority lower than a priority of a normal data transfer between the system modules and the crossbar module.~~

17. (CURRENTLY AMENDED) The memory access method as claimed in claim 16, wherein the crossbar module transfers the preread data stored in the buffer thereof to the arbitrary system module with a the priority lower than the priority of the normal data transfer between the system modules and the crossbar module.

18-34 CANCELLED